Mr. Michael T. Davis Pre-Calculus	1.3 & 1.4 QUIZ September 16, 2015

Name: Solutions

52 pts Total

2pt 1. Simplify $27^{\frac{1}{3}} =$ $\sqrt[3]{27} = 3$

4pt 2. Simplify $16^{\frac{3}{4}} =$ $\left(16^{\frac{1}{4}}\right)^3 = \left(\sqrt[4]{16}\right)^3 = 2^3 = 8$

4pt 3. Simplify $\frac{4^9 x^2}{4^7 x^5} =$ $\frac{4^2}{x^3} = \frac{16}{x^3}$

4pt 4. Simplify $\frac{39y^8}{13y^3} =$ $3y^5$

2pt 5. Simplify $\frac{x}{x^{-2}} =$ $\frac{x^1}{x^{-2}} = x^{1-(-2)} = x^3$

4pt 6. Simplify $\left(4xy^2\right)^3 =$ $4^3 x^3 y^6 = 64x^3y^6$

4pt 7. Simplify $6x^4y^3 + x^4y^3 =$ $7x^4y^3$

4pt 8. Multiply & Simplify $(x+4)(x-4)$ $= x^2-4x+4x-16$
$= x^2-16$

4pt 9. Square the binomial $(x+5)^2$ $= (x+5)(x+5) = x^2+5x+5x+25$
$= x^2+10x+25$

4pt 10. Multiply & Simplify $(2x+7)(x-3)$ $= 2x^2-6x+7x-21$
$= 2x^2+x-21$

4pt 11. Factor $3x^2-11x-4$ $= (3x+1)(x-4)$

4pt 12. Solve $(3x-1)(x+7)=0$ $\{\frac{1}{3}, -7\}$
$3x-1=0$ $x+7=0$
$3x=1$ $x=-7$
$x=\frac{1}{3}$

4pt 13. Solve $2x^2-12x=0$ $2x(x-6)=0$ $\{0, 6\}$
$2x=0$ $x-6=0$
$x=0$ $x=6$

4pt 14. Solve $x^2+11x+24=0$ $(x+3)(x+8)=0$
$x+3=0$ $x+8=0$
$x=-3$ $x=-8$